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ABSTRACT

The culmination of the Environmental Law Institute's Energy Conservation Project will be a series of handbooks addressed to state and local officials, legislators, and interested citizens setting out suggested strategies for conserving energy. This issue of the ECP Report publishes the first of a series of draft chapters from these handbooks - a chapter on land use planning for energy conservation by Corbin Crews Harwood from her book, LAND USE AND ENERGY CONSERVATION. This chapter describes how plans designed to promote energy-efficient land use can be established at the state, regional, and local levels; and, briefly outlines guidelines for drafting energy-efficient comprehensive plans. Specific energy-saving strategies are discussed in the context of comprehensive planning. Included in the appendix are: excerpts from the Energy Conservation and Transportation Goals and Policies adopted by the Lincoln, Nebraska, City Council and the Lancaster County, Nebraska, Board of Commissioners; the final guidelines issued by the Federal Energy Administration for the preparation of state energy conservation feasibility reports; a review of the federal government's problems and prospects related to the procurement of recycled goods; and an article describing energy conservation through the lowering of transit crime. (BT)

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Planning for Energy Conservation

The culmination of the Environmental Law Institute's Energy Conservation Project will be a series of handbooks addressed to state and local officials, legislators, and interested citizens setting out suggested strategies for conserving energy. Beginning with this issue, ECP Report *will publish draft chapters from these handbooks. This issue contains a chapter on land use planning for energy conservation by Corbin Crews Harwood from her book,* Land Use and Energy Conservation. *Our next issue will contain a chapter on automobile parking management by Durwood J. Zaelke from his book,* Energy Conservation and Urban Transportation.

by Corbin Crews Harwood

State, regional, and local governments interested in promoting energy-efficient land use should consider developing, as a first step, a "comprehensive plan" that includes energy conserving land use policies. A comprehensive plan is generally defined as a long-range policy guide consisting of standards and recommendations for future land development. It should be based on a thorough examination of community[1] characteristics and a careful balancing of community goals and may contain suggestions for implementation of the policies it endorses. A comprehensive plan, for purposes of this handbook, is presumed to be a document that exists independently of zoning ordinances and other land development regulations.[2]

Because comprehensive plans force communities to inventory their resources and project their demands, these plans are a prerequisite to good land development. They show where coordination of land use activities is needed if goals are to be met and they provide a standard for review so that proposed activities may be evaluated in terms of those goals. Plans also serve an educational function by allowing comparisons between projected and actual development patterns and by reflecting, if they are kept up to date, the desires and activities of the community.[3] But most importantly, in addition to serving these traditional purposes, comprehensive plans can be the primary working document for developing energy-efficient land use.

This chapter describes how plans designed to promote energy-efficient land use can be established at state and regional levels (Part I) and at local levels (Part II). Part III briefly outlines guidelines for drafting energy-efficient local comprehensive plans.

Before examining several planning strategies that different government units should consider, however, this chapter will discuss how plans can enhance energy conservation through their impact on the decisions of private citizens and government agencies and how plans provide a legal foundation for energy-conserving land use regulations. Specific energy-saving strategies briefly discussed here in the context of comprehensive planning are dealt with more fully in later chapters.

Importance of Comprehensive Planning for Energy Conservation

As noted in Chapter I, even when energy conservation is not an objective of a land use plan, significant energy savings can accrue from the construction of compact, contiguous developments which are the products of good plans. However, substantially greater savings are possible when energy conservation becomes a planning goal, for private citizens and public officials can separately and jointly focus on the energy demands of alternative land use patterns and make their land use decisions in light of the energy consequences.

A plan that reflects concern for energy impacts cannot by itself force people to conserve energy, but it can lay the groundwork for implementing regulations or incentives that guide individuals into energy-efficient locations and structures. It may, for example, incorporate goals and guidelines encouraging people to move into compact developments close to transportation lines so that public transportation instead of less energy-efficient private automobiles can be used. Or a plan may call for multi-family zoning in areas previously zoned exclusively for single-family homes. If the plan is implemented and

1. Although "community" usually refers only to local communities, here it refers to regional and state-wide "communities" as well.

2. When asked to decide what constitutes a comprehensive plan, most courts have held that a comprehensive plan can be found in a zoning ordinance that reflects a rational, integrated policy plan. There is, however, a growing movement to require comprehensive plans to exist as independent documents. *See* pp. 10-11, *infra*.

3. Donald G. Hagman, *Urban Planning and Land Development Control Law* (St. Paul: West Publishing Co., 1971) §22 at pp. 51-52.

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multi-family dwellings are built, energy savings will accrue from reduced loss of heated or cooled air through walls, ceilings, and floors due to a reduction in the number of exposed surfaces. Moreover, the resulting increase in population density may be sufficient to support public rather than private transportation.

By making energy conservation a land use goal, a comprehensive plan can also force planners and public officials to use traditional and innovative land use controls to promote energy savings. In addition, a comprehensive plan may alert decision-makers to coordinate several land use controls to achieve maximum energy savings. For example, the plan can show how housing development and transportation systems interact so that residential and commercial construction can be channeled into developments dense enough to support an energy-efficient public transportation system.

Finally, comprehensive planning can show where coordination of government and private decisions is necessary so that one person's energy savings do not cancel out someone else's. Nothing is gained if the Smiths move from a suburban area to the central city while the Jones move from the central city out to the suburbs. Once such population shifts are discovered, comprehensive plans can be designed to revitalize cities so that new residents can be attracted while present residents are encouraged to stay. In this fashion urban sprawl, a major contributor to energy waste, can be curbed.

Legal Importance of Comprehensive Planning

Aside from its direct energy conservation benefits, planning can make a difference in whether or not courts uphold the use of innovative land use techniques whose flexibility allows maximum energy savings. These techniques, such as planned unit development ordinances and growth management controls, give planning bodies useful and important discretion, but the exercise of that discretion without the backdrop of a comprehensive plan may well be vulnerable to legal challenge. Implementation of flexible techniques can, if applied piecemeal, lead to lawsuits by adversely affected land owners claiming that their property rights have been violated by arbitrary and discriminatory planning actions. Piecemeal planning decisions may also be more open to challenges that they are unlawfully exclusionary. Consequently, before these techniques are employed to save energy, public officials should strengthen them against legal challenges.

One way to minimize attacks on discretionary land use controls is to require that the controls conform to an adopted comprehensive plan. By removing some discretion from the local planning body through the establishment of goals and standards with which land controls must conform, a comprehensive plan can dissipate charges that land use decisions are arbitrary. At the same time, the plan can leave enough flexibility to planning agencies to achieve desired goals through innovative land use controls. If a court can be persuaded that a comprehensive plan injects elements of rationality and fair treatment into the land control process and ensures that innovative land use controls are imposed fairly, the court may find in the comprehensive plan a basis for holding that flexible land use controls meet constitutional requirements.[4] For example, the sophisticated growth management system challenged in the landmark *Ramapo*[5] case might not have been upheld if the comprehensive town plan, a product of four volumes of land use studies, had not existed. The extensive background research that culminated in the comprehensive plan and its implementing regulations bolstered the court's finding that the growth management system adopted by Ramapo's governing body was a rational and fair response to the threat of unmanageable population pressures.

I. Planning at a Regional or State Level

Although it is important to maximize local involvement in land use planning, energy conservation is one planning issue that transcends jurisdictional boundaries. Development of energy-efficient land use patterns may require management and control of growth that does not stop at a municipal, county, or even state line, but rather extends into neighboring jurisdictions. Transportation systems, an important component in the land development equation with a direct impact on energy demands, may also extend throughout a region. The increasing number and size of standard metropolitan statistical areas (SMSA), and the simultaneous increase in interaction of local governments within a metropolis[6] highlight the need for land use and

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4. Daniel R. Mandelker, "The Role of the Local Comprehensive Plan in Land Use Regulation." (A forthcoming article written under contract with the American Bar Association Advisory Commission on Housing and Urban Growth and to be published later this year in the *Michigan Law Review* (hereinafter cited as "Mandelker"). Professor Mandelker graciously made his article available to me in draft form while I was preparing this chapter on comprehensive planning. The draft proved an invaluable aide in helping me assess the importance of comprehensive planning and in referring me to several relevant recent cases and statutes.

5. *Golden v. Planning Board of the Town of Ramapo*, 334 N.Y.S.2d 138, 30 N.Y.2d 359, 285 N.E.2d 291 (1972) *appeal dismissed*, 409 U.S. 1003 (1973).

6. From 1950 to 1972 there was a 60 percent increase in the number of metropolitan areas and an 80 percent rise in the number of metropol-

energy conservation planning on a broader-than-local scale. For these reasons, states may wish to provide for regional and state-wide involvement in planning for energy-efficient land use. Regional and state intervention in land use planning is hampered, however, because most states have delegated the power to control land development to local governments.[7] Undoubtedly, local governments will resist returning this power to regional or state planning agencies that may not be familiar with or responsive to local needs.

In the few cases in which strong state and regional control over land use planning has been successfully reasserted, characteristics peculiar to that state or region explain the success.[8] For example, the state government in Hawaii controls land use to an extent that would be unthinkable in states without Hawaii's history of strong centralized government. In Oregon and Vermont, strong concerns for environmental protection provide the basis for state land regulation.

In states where elements conducive to public support for state or regional land use controls are lacking, however, it is hardly likely that the need to conserve energy will provide the necessary impetus for the adoption of controls. For that reason, the following brief review of *alternative* energy-conserving state and regional planning strategies is written with the caveat that effective comprehensive planning on a broader-than-local level will be, in most cases, a long-term prospect.

A. *Strategy: Rely on voluntary regional councils for development of regional land use plans promoting energy-conserving land use patterns.*

One outgrowth of the general need for regional response to broad-ranging land use issues has been the establishment of regional planning and development councils commonly referred to as Councils of Governments or "COG's." These councils are usually voluntary organizations dependent on local and federal financial support. Rarely do they possess implementing authority.

Regional councils can perform a valuable energy conservation function by educating local governments about the energy impacts of their land use decisions and by helping to formulate regional plans promoting energy conservation through land use. For example, the energy and land use study of the Washington, D.C. metropolitan area is a product of COG-sponsored research.[9] Moreover, one energy-conscious regional plan can have a greater impact than a multitude of local plans on location of state highways and other energy-demanding facilities.

A problem with regional councils is that their lack of implementing authority and their dependence on local support and financial aid often impedes their ability to influence land use decisions effectively. Councils are subject to serious setbacks if a participating governmental unit disagrees with the council's policies and withdraws its financial or political support. Many excellent regional programs and plans may never leave the drafting boards because local governments refuse to adopt council recommendations. Yet it is unlikely that many states will give regional councils authority to enforce their plans. In 1972 a study by the Advisory Commission on Intergovernmental Relations found that only 20 percent of surveyed local officials in regional council jurisdictions favored vesting councils with implementing authority.[10]

B. *Strategy: Establish regional councils with planning and implementing authority.*

Since even advisory regional councils without implementing authority are seen as a threat by some local governments, it is unlikely that states can overcome political opposition to establishment of councils with real clout. Yet a few states have established strong regional agencies with authority to develop comprehensive plans. One notable example is the California regional planning districts created by statute and supported by assessments levied on each county within a district. The regional plan produced by the regional body is, however, only advisory.[11] The Minneapolis/St. Paul Metropolitan Council is another strong regional body with planning authority, but it too lacks the authority to implement regional land use plans.

Regional planning bodies with implementing authority do exist, but they have been created primarily to protect environmentally unique or critical land. The New York Adirondack Park Agency,[12] San Francisco Bay Conservation and Development Commission,[13] Tahoe Regional Development Agency,[14] and (Hackensack) Meadowlands Redevelopment Agency[15] in New Jersey are examples of specialized regional bodies with both planning and implementing authority. In spite of the success of regional

itan counties. The U.S. Commission on Population Growth and the American Future estimates that by the year 2000, there will be over 300 SMSA's and that about 25 percent of the nation's 3,146 county areas will lie within the boundaries of a metropolitan complex. By the year 2000, there will be at least 50 SMSA's with populations over 1 million persons compared to only 14 SMSA's with that population in 1950. (Advisory Commission on Intergovernmental Relations, *Substate Regionalism and the Federal System Regional Decisionmaking: New Strategies for Substate Districts*, (Washington, D.C.: 1973) I, 317) (hereinafter cited as "ACIR").

7. *See* pp. 6 to 12, *infra*.

8. For a discussion of the reassertion of state and regional participation in major land use decisions, *see* Bosselman and Callies, *The Quiet Revolution in Land Use Controls*, (Washington: Council on Environmental Quality, 1971).

9. James F. Roberts, *Energy, Land Use and Growth Policy: Implications for Metropolitan Washington*, prepared for the Metropolitan Washington Council of Governments, (Washington, D.C., 1975).

10. ACIR, *supra*, n.6 at 345.

11. Cal. Regional Planning Law, Cal. Gov't Code §§65060.8, 65061, 65069.1, 65069.2 (West Supp. 1975). California also provides that two or more counties may create a planning district upon resolution of the board of supervisors in each county, but recommendations of such a district body also are merely advisory. (Cal. Gov't Code §§66140, 66241 (West 1966)).

12. N.Y. Exec. Law §§800-810 (McKinney Supp. 1975).

13. Cal. Gov't Code §§66600 *et seq.* (West Supp. 1975).

14. Cal. Gov't Code §§66800 *et seq.* (West Supp. 1975).

15. N.J. Stat. Ann. §§13:17-1 *et seq.* (Supp. 1974).

planning bodies serving unique or critical areas or specialized functions, there will probably be substantial opposition to vesting strong regional councils with sufficient power to channel growth into energy-efficient patterns. Part of the opposition may arise from an inherent dislike for bureaucracy and from a feeling that regional bodies move decision-making one step farther from the people those decisions affect. More tangible opposition may arise from the effect of regional planning on local revenues and community make-up. Most local governments rely on revenue from property taxes to support education and other local services. Consequently, in an effort to keep property taxes at a reasonable level, some local governments have used their zoning and subdivision powers to exclude an undue number of families with school-age children.[16] Other developing communities have used their land control tools to prevent low-income groups and racial minorities from moving in and changing the character of the community. Strong regional planning bodies, following the lead of legislatures and courts which have overturned fiscal zoning and exclusionary land use regulations, can change these development patterns by requiring communities to open up their housing to low-income families and to permit construction of multi-family housing in areas where it has previously been prohibited. These trends and, most importantly, reform in property tax laws so that localities are not forced to compete for "good" tax ratables can go a long way toward reducing political opposition to strong regional governments possessing the power to enforce regional solutions to energy problems. Such changes will not, however, take place in the short run.

Aside from political difficulties, establishment of powerful regional councils raises several legal issues. First, the state must ensure that creation of a council with implementing authority does not conflict with constitutionally or statutorily granted local home rule power. If a conflict exists, amendment of home rule provisions will be required. In addition, regional councils raise representational and voting issues involving the one-man, one-vote principle. On the one hand, large central cities may advocate population weighted voting since a system of according one vote to each governmental unit would skew the council in favor of smaller local units. Suburban municipalities may prefer single governmental unit voting since that scheme enhances their strength. Even though courts may uphold unit voting schemes where council members are appointed rather than elected or where the council does not perform governmental functions, it is likely that population weighted voting will be required for regional councils with elected representatives who perform planning, administrative, and enforcement duties.[17]

C. *Strategy: Provide for regional and state review of local plans to achieve consistency with state-wide goals.*

Another way of making energy conservation plans reflect regional and state interests, and perhaps the most politically feasible approach, is to require localities to develop comprehensive plans which must conform with an established list of state goals that include energy conservation.[18] Presumably, if all localities are following the same goals and guidelines, some integration of comprehensive plan objectives on a regional basis will be achieved. Oregon is already experimenting with such an approach.[19]

Coordination can be further stimulated by requiring the local plan to include a statement of how the proposed development pattern is coordinated with plans of adjacent municipalities and counties, and with regional and state comprehensive plans where such plans exist.[20] Alternatively, counties can be required to coordinate the plans of all municipalities within their boundaries,[21] or counties can be given the right to veto provisions of municipal plans that conflict with county plans. Amendments to local home rule statutes and constitutional provisions may be required if this alternative is pursued.

Simply requiring local planning bodies to coordinate their plans with those of surrounding local governments may not be sufficient to promote broad-based energy conservation. For example, a locality may discourage growth within its own boundaries in an effort to reduce energy consumption and instead force growth to leapfrog to rural areas where growth is not restricted and where transportation requirements will be greatly increased. Some localities, on the other hand, may simply refuse to follow state planning goals. An effective way to eliminate such problems is to provide for regional and state review of local comprehensive plans and to empower the reviewing bodies to invalidate or amend portions of the plans that

16. *See City of Hartford v. Hills*, Civil No. H-75-258 (D.C. Conn. January 28, 1976) and *Southern Burlington County NAACP v. Township of Mt. Laurel*, 67 N.J. 151, 336 A.2d 713 (1975).

17. *See* ACIR, *supra*, n.6 at 335.

18. Pages 6 through 10, *infra*, discuss in detail the need for local comprehensive planning with energy conservation as a goal.

19. 1973 Oregon Land Use Act, Ore. Rev. Stat. §§197.005 *et seq.* (1973) (hereinafter cited as "Ore. Rev. Stat.").

20. Florida includes such a provision in its Fla. Local Gov't. Comprehensive Planning Act of 1975, Ch. 75-257 §7(4) (1975).

21. *See* Ore. Rev. Stat. §197.190 (1973).

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conflict with regional or state requirements established to achieve state-wide planning goals. This approach has been adopted in Oregon where the state planning agency reviews, as a matter of course, all local plans to determine whether they conform with state-wide goals. The agency enforces conformity by prescribing and administering a local comprehensive plan for recalcitrant localities at the expense of the locality.[22] In addition, a county governing body, state agency, or any person whose interests are significantly affected by a provision in a local comprehensive plan can request and receive review of the plan or action under the plan by the state planning and development commission.[23] The commission can enjoin any land use or building construction not conforming with a local comprehensive plan or land use regulation.[24] Its rulings may be appealed to the state court.[25]

Direct judicial review of local plans provides an alternative means for enforcing compliance with state goals. As one expert in the planning field points out, however, the mandatory administrative review approach adopted by Oregon may be preferable because it does not depend on the willingness or ability of private parties to sue for the enforcement of state goals and because agencies, unlike courts, can be empowered to revise comprehensive plans that do not conform to state goals.[26]

D. *Strategy: Establish state control over development in critical areas and over developments of regional or state-wide impact.*

Adopting state comprehensive plans to promote energy conservation policies and goals on a state-wide basis is another way to handle the extra-jurisdictional impacts of energy demand. But few states have provided for state-wide planning and although several others are exploring the possibility,[27] political opposition to state planning is strong. The approach that has received the most positive response is assertion of state control over (1) development in critical areas and (2) developments whose state-wide or regional impact will play a key role in determining where new growth occurs.

Through regulation of development in critical areas or with broad impacts, states and regional bodies can channel growth into energy-efficient locations and can set energy-efficiency standards for the design, intensity, location, and kind of development allowed. Nevada,[28] Florida,[29] and Oregon[30] are among several states that provide for state regulation of critical areas, but no state, as yet, appears to base regulation on energy conservation criteria.

Activities of state-wide or regional concern have a particularly direct impact on energy consumption since those kinds of activities greatly influence where and how energy-demanding new growth occurs. In regulating those activities, states might follow the model of Vermont, which requires promoters of all major developments and some minor developments in areas without zoning controls to obtain a state permit before beginning any development activity. Permits are conditioned in part on the applicant's demonstration that "planning and design of the subdivision or development reflect the principles of energy conservation and incorporate the best available technology for efficient use or recovery of energy."[31]

Statutes in Oregon and Florida provide other models for bringing activities of state-wide or regional significance under state control. Under the Oregon law, activities of state-wide significance include planning and siting of public transportation facilities, sewerage systems, water supply systems, solid waste disposal facilities, and public schools.[32] Those activities cannot be undertaken by a private person or government agency without a planning and siting permit issued by the state land use planning commission. The commission may issue permits after it determines that the activity complies with state-wide goals and the comprehensive plan of the county in which the activity is located.[33]

The Florida Statute defines developments of regional impact (DRI) more broadly—a DRI is any development which, because of its character, magnitude, or location, will have a "substantial effect upon health, safety, or welfare of citizens of more than one county."[34] DRIs cannot be undertaken unless authorized by a local government after the development has been examined in light of local, state, and regional land use plans, regulations, and recommendations. DRIs may be approved subject to

22. *Id.* §§197.325(1), 197.330. The state planning agency may also prescribe and administer land use regulations to implement the plan. It is arguable that such a delegation of power to a state agency is improper since zoning is a legislative act to be performed by a legislative body.

23. *Id.* §197.300.

24. *Id.* §§215.510(3), 215.535.

25. *Id.* §197.310(5).

26. Mandelker, *supra*, n.4. Note that although Oregon gives the state planning agency the power to prepare a comprehensive plan when a local plan fails to conform with state-wide goals and guidelines by a certain date, the agency has no express statutory authority to make changes in the plan if review is sought after initial approval has been granted. It apparently can only declare the plan or portion thereof invalid. *See* Ore. Rev. Stat. §§197.300, 197.325 (1973).

27. *See 1976 Report on National Growth and Development*, Draft Report prepared by Peter C. Labovitz and Co., Washington, D.C., for the Department of Housing and Urban Development at p. XI-18.

28. Nev. Rev. Stat. Ch. 321 §§321.640, 321.660, 321.720.3, 321.770 (1973).

29. Fla. Environmental Land and Water Management Act of 1972, Fla. Stat. Ann. §380.05 (1974).

30. Ore. Rev. Stat. §§197.040(2)(e), 197.405(2) (1973).

31. Vermont Land Use and Development Law, Vt. Stat. Ann. T.10, §6086(a)(9)(F) (Supp. 1975).

32. Ore. Rev. Stat. §197.400(1). Interestingly, power transmission lines are not listed among activities of state-wide significance even though they also have a major impact on the location of new growth. The Oregon statute does, however, provide that the state planning commission can suggest to the state legislature regulation of other activities of state-wide significance. (*Id.* §197.405(1)).

33. *Id.* §§197.410, 197.415(5). It appears that a second, as yet undrafted, set of state-wide goals, different from those applicable to local comprehensive plans, will apply to activities of state-wide significance. It is not known whether energy conservation will be included among the mandatory goals.

34. Fla. Environmental Land and Water Management Act of 1972, Fla. Stat. Ann. §380.06(1) (1974).

conditions, restrictions, or limitations.[35] Presumably energy conservation can be included as a condition for approval.

State control over large-scale activities, activities of regional impact, or activities in critical areas can have a beneficial impact on energy conservation. But it is also important to control development that by itself may not have a state-wide or regional impact but which, when added to other similar development, can significantly influence energy demands. Consequently, state and regional land use control over activities in critical areas or with broad impacts can supplement, but not replace, local comprehensive planning efforts for shaping land development into energy-efficient patterns.

II. Planning at a Local Level

Authority to regulate land use rests with the state as an element of its police power, but most states have delegated their land planning power to local governments. This transfer of land use planning powers has occurred in part because states realize that local governments are more familiar with the land use characteristics and demands of their immediate areas and can generally respond rapidly to the problems and requests of constituents. Delegation of power has been accomplished primarily through adoption of the Standard Zoning Enabling Act[36] prepared by the U.S. Department of Commerce in 1926 and the Standard Planning Enabling Act[37] prepared in 1928, or through adoption of variations on those enabling Acts. The Acts empower local governments to zone, adopt subdivision controls, and prepare and adopt a master plan.

Local governments have jealously guarded their power to control the development of land within their jurisdiction. Although recently the need to make complex environmental, social, and administrative land use decisions reflecting broader-than-local interests has prompted a reentry of state and regional governments into the land use planning and control area, local governments retain primary power over land use decisions. States might, therefore, consider adoption of the following *cumulative* strategies to promote energy-efficient land use planning at the local level.

A. *Strategy: Encourage or require local governments to adopt comprehensive plans.*

States can either encourage or require local governments to engage in energy-conserving comprehensive planning. Alternatively, local governments may simply take the initiative themselves by developing their own comprehensive plans, provided the necessary enabling authority exists. The latter course is unlikely in most areas, however, since many local jurisdications lack financial resources and technical expertise to prepare comprehensive plans. The Council of State Governments reports that only 40 percent of the counties surveyed in 1971 used the basic development controls given to them.[38] One writer found that only 5,000 out of 60,000 jurisdictions with authority over land use exercised zoning powers in 1974.[39] Because so many jurisdictions have failed to use fundamental land control tools, it is doubtful they will develop comprehensive plans without encouragement and assistance from the state or federal government.[40]

One way that states can encourage localities to develop comprehensive plans is by enacting enabling legislation to authorize local comprehensive planning and by including in that legislation provisions for technical and financial support. The Wyoming State Land Use Planning Act includes a section that explicitly authorizes planning grants to local governments of up to $10,000 per year and appropriates $460,000 for that purpose.[41] Oregon has appropriated $6 million to help localities with planning and has supplemented this financial assistance with a handbook on how to develop a local comprehensive plan. Field representatives from the Oregon Land Conservation and Development Department travel throughout the state to provide assistance to local planners and officials.[42]

Alternatively, states can encourage adoption of comprehensive plans by conditioning grants of certain state benefits or allocation of certain planning powers on the development of a comprehensive plan. The Model Land Development Code adopted last year by the American Law Institute takes this approach. The ALI Code requires adoption of a "Local Land Development Plan" before local governments are given powers relating to regulation of planned unit developments, designation of "specially planned areas," designation of criteria for development permission, adoption of special preservation districts, reservation of land for future acquisition by public agencies, and discontinuance of existing land uses.[43]

Some states have decided to take a more direct approach by mandating that local governments develop

35. *Id.* §380.06(11).

36. United States Department of Commerce, A Standard Zoning Enabling Act (rev. ed. 1926) (hereinafter cited as "SZEA"). At one time all 50 states adopted SZEA. That act remains in effect with various modifications in 47 states. Norman Williams, Jr., *American Land Planning Law* (Chicago: Callaghan and Company, 1974) I §18.01, 355) (hereinafter cited as "Williams").

37. United States Department of Commerce, A Standard Planning Enabling Act (1928) (hereinafter cited as "SPEA").

38. The Council of State Governments, *1976 Suggested State Legislation*, XXXV (Lexington: The Council of State Governments, 1975) at p. 75.

39. Peter Wolf, *The Future of the City/New Directions in Urban Planning*, (New York: Watson-Guptill, 1974) at p. 149.

40. The Housing and Urban Development §701 Comprehensive Planning Assistance Program has provided financial assistance to many local governments developing comprehensive plans, but Congress has drastically reduced funding for that program in 1976.

41. Wyo. State Land Use Planning Act, Wyo. Stat. Ann. §9-862 (Supp. 1975) (hereinafter cited as "Wyo. Stat. Ann.").

42. These actions have been taken pursuant to Ore. Rev. Stat. §§197.005 *et seq.* (1973).

43. American Law Institute, *A Model Land Development Code*, §§2-209(1)(b), 2-210, 2-211, 2-212, 3-101, 3-201, 4-102(1) (Philadelphia, 1975).

comprehensive land use plans according to standards set by the state. California,[44] Oregon,[45] Nebraska,[46] Florida,[47] Idaho,[48] Wyoming,[49] and Virginia[50] have recently passed laws to that effect. Moreover, Oregon,[51] Wyoming,[52] and Florida[53] provide for state governments to take over the comprehensive planning job if local efforts are inadequate.[54] If this approach is followed, states must be sure that local home rule provisions allow, or are modified to allow, state intervention in the local planning process.

In order to encourage or mandate comprehensive planning, states must provide financial and technical assistance. In addition, states taking either approach must be able to convince citizens of the merits of comprehensive planning. That task may not be an easy one. Americans have traditionally considered land a commodity, not a resource whose use can be regulated by the government. In spite of the strongly entrenched legal precedent for the regulation of land uses,[55] many people continue to believe that the manner in which land is used is the prerogative of the owner. But traffic congestion that builds up at shopping centers, air and water pollution that flow from haphazard growth, flooding that occurs after developments pave over soil, and energy consumption that increases as people live farther from jobs, shops, education, religious, and medical facilities clearly demonstrate that the impacts of land use decisions are not confined by boundary lines.

Citizens must be convinced that comprehensive planning is the first step in regaining control over the growth and development of their land. Consequently, the value of a comprehensive plan in terms of saving not only energy, but also money, natural resources, time, and the environment, should be emphasized. In addition, states must be prepared to correct another common misconception about the effects of government involvement in land use—that planning is inconsistent with economic development. The two need not be incompatible and, in fact, planning can enhance economic growth. For example, a downtown mall planned and built with $4 million of private and federal funds in Minneapolis, Minnesota, has spawned new development and redevelopment totalling over $250 million in the surrounding area. In Oregon, both good land use and economic growth are emphasized in the name of the agency created to implement the state land use act—The Land Conservation and *Development* Commission.[56]

Securing citizen approval of the theory of comprehensive planning is only the first step toward making a comprehensive plan work. Citizen support during the planning process is also crucial and can be stimulated by encouraging citizen participation in all stages of the planning process.[57] Support generated during the early phases of comprehensive planning can also provide a solid base for action during implementation of the plan.

If states provide proper enabling authority for the adoption of comprehensive plans and the plans are adopted in accordance with the requirements of procedural due process, the plans generally will not be subject to other constitutional challenges during the adoption process.[58] Upon implementation of the plan, however, courts will look at whether or not the implementing

44. Cal. Gov't. Code §65300 (West 1966).

45. Ore. Rev. Stat. §§197.175(2), 197.250 (1973).

46. Neb. L.B. 317, *as amended*, L.B. 410 (1975).

47. Fla. Local Gov't Comprehensive Planning Act of 1975, Ch. 75-257 §4(2) (1975).

48. Idaho Local Planning Act of 1975, Idaho Code §67-6508 (Supp. 1975).

49. Wyo. Stat. Ann. §9-856 (Supp. 1975).

50. Va. Code Ann. §15.1-446.1 (Supp. 1975).

51. Ore. Rev. Stat. §197.325(1) (1975).

52. Wyo. Stat. Ann. §9-856(e) (Supp. 1975).

53. Fla. Local Gov't. Comprehensive Planning Act of 1975, Ch. 75-257 §4(8) (1975).

54. In Nebraska, a county within a standard metropolitan statistical area must prepare plans and enforce zoning and subdivision regulations for municipalities that fail to prepare and enforce adequately plans and regulations. (Neb. L.B. 317 §1, *as amended*, L.B. 410 §31 (1975)).

In addition to the energy-conserving benefits derived from local comprehensive planning, another consideration may provide an impetus for states to require comprehensive planning on a local, as well as regional and state, level. As more local governments engage in planning, neighboring localities will be prompted to come up with their own comprehensive plans to ensure that they do not find themselves overwhelmed by burdens of growth while their neighbors attract only the benefits. The recent *Ramapo* case (*Golden v. Planning Board of the Town of Ramapo, supra*, n.5), in which a locality controlled the timing of its development, and the *Petaluma* case (*Construction Industry Association of Sonoma County v. City of Petaluma*, 522 F.2d 897 (9th Cir. 1975); *cert. denied* ___ (Feb. 23, 1976)), in which a locality controlled the amount as well as timing of development, are evidence that localities are using their land management tools with more sophistication. If the effect of their action is not only to guide growth but also limit it, then neighboring localities, suddenly faced with development for which they had not planned and for which they lack the resources to provide, will be prompted to develop growth control plans of their own. Competition for the "good tax ratables" among localities through the comprehensive planning process would appear to provide an opportunity, if not a necessity, for state intervention in the land planning process to assure orderly growth. States can promote such growth by not only requiring all localities to plan comprehensively, but also requiring coordination of local plans and conformity with state goals and guidelines. These techniques are discussed more fully later in this chapter. Some state court cases expected to have wide application have called for state and regional intervention in local planning by holding that communities must meet regional housing demands and cannot use their land development tools to the detriment of other localities by excluding low-income individuals. *See Southern Burlington County NAACP v. Township of Mt. Laurel*, 67 N.J. 151, 336 A.2d 713 (1975); *Appeal of Kit-Mar Builders*, 439 Pa. 466, 268 A.2d 765 (1970).

55. *See Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365 (1926), which upheld zoning as a valid exercise of the police power of the state. Regulation of land use goes back as far as early nuisance cases; prohibiting certain land uses deemed detrimental to the community. *See Mugler v. Kansas*, 123 U.S. 623 (1887).

56. Ore. Rev. Stat. §197.130 (1973).

57. Oregon has incorporated such a requirement in its Land Use Act. *Id.* §197.160 (1973).

58. *See* Hagman, *supra*, n.3 at §23, pp. 53-55 and *Williams, supra*, n.36, §22 at 405-419, for a discussion of the legal effect of adopting a comprehensive plan. Most courts have held that mere adoption of a plan by a governing body does not give rise to actions alleging that the plan constitutes a "taking" or a denial of substantive due process or equal protection. Those claims may be raised after ordinances and regulations implementing the plan are passed. If, however, a statute requires land control ordinances to conform to an adopted plan, thus making the plan more than an advisory document, it seems that a much stronger case could be made for the argument that mere adoption of the plan has a direct impact on property rights and can give rise to actions challenging the plan even before it is implemented.

regulations violate property rights and may look beyond the regulations to examine the substance of the comprehensive plan. When implementation of the plan violates a fundamental right protected by the constitution (i.e., the right to travel) or discriminates against a suspect class (i.e., a racial minority), the court will demand that the local government show a compelling reason for its action, or the plan and its implementing regulations will be declared illegal.[59]

Several recent cases have demonstrated that courts will also look unfavorably upon plans and regulations that have an exclusionary impact on low-income individuals. Two significant cases, one by New York State's highest court and the other by a federal court of appeals, have upheld implementation of controversial growth management plans which were challenged on the ground that they were exclusionary. But both courts explicitly examined whether or not the land use systems had an undue exclusionary impact and found that they did not before issuing favorable rulings. As these cases demonstrate, courts will scrutinize comprehensive plans and their implementing regulations and invalidate those plans having an exclusionary intent or effect, no matter how energy-efficient they may be.[60]

B. *Strategy: Encourage or require localities to incorporate energy conservation as a goal in their comprehensive plan.*

Once a locality decides to draft a comprehensive plan, the next step is to decide what elements to include in designing the plan. Comprehensive plans generally reflect an amalgam of carefully balanced considerations and goals with no single factor unduly dominating the shape of the final product. Including energy conservation as a mandatory criterion, or simply as a factor that planners should weigh in developing a comprehensive plan, is an excellent way to promote energy-efficient land use.

The unexpected energy "crisis" of 1973 caused several states and localities to examine the impact of their land use planning decisions on energy consumption and to add energy conservation to their list of planning goals. On a local level, Eugene, Oregon, supplemented its previously adopted metropolitan area plan with a "Goals and Policies Document" which included a chapter on energy.[61] The "Albuquerque/Bernalillo County (New Mexico) Comprehensive Plan/Policies Plan for 1975" includes a statement that "[t]he City and County shall pursue land use planning that will maximize potential for energy conservation."[62] The governing bodies of the City of Lincoln and Lancaster County, Nebraska, adopted broad energy conservation goals and guidelines to be used in updating the comprehensive regional plan for the city and county.[63]

Alternative state strategies for injecting energy conservation into the local planning process range from: (1) relying on local planners to incorporate an energy conservation element in the plan voluntarily; (2) establishing a state agency to develop mandatory statewide goals and guidelines for local comprehensive plans and relying on that agency to include energy conservation as one of the goals; and (3) including, as a provision of the state enabling legislation for local planning, the requirement that energy conservation be a goal in the development of a comprehensive plan. The first approach requires no state regulation of local activity and may be preferable to some people for that reason. Oregon has tried the second approach and, fortunately, the state planning agency chose to include energy conservation as a goal to be followed in all local plans.[64] The third approach is potentially the most effective since it avoids the possibility that state agencies or local planners may decide not to choose energy conservation as a goal. But this approach is also

59. *See* for example, *Shapiro v. Thompson*, 394 U.S. 618 (1969); *Loving v. Virginia*, 388 U.S. 1 (1967). These cases do not involve comprehensive plans but nevertheless set out the standard of review when violation of a fundamental right or race discrimination is alleged. The United States Supreme Court has never found that a state statute discriminating on the basis of race met the "compelling interest" test.

60. *Golden v. Planning Board of Town of Ramapo, supra*, n.5 at 295, fn.2, and *Construction Industry Association of Sonoma County v. City of Petaluma, supra*, n.54. The landmark case on exclusionary zoning, *Southern Burlington County NAACP v. Township of Mt. Laurel, supra*, n.16, which requires developing communities to provide a fair share of the region's need for low- and moderate-income housing, does not involve examination of a comprehensive plan. Nevertheless, it is doubtful the court would have reached a different conclusion if it had found that an exclusionary comprehensive plan required adoption of the offending regulations.

61. "Community Goals and Policies/1974/Eugene," Eugene Planning Department, Eugene, Oregon, (1974) at p. 32.

62. "Albuquerque/Bernalillo County Comprehensive Plan/Policies Plan," Albuquerque/Bernalillo County Planning Department, New Mexico (April 1975) at p. 24. The Policies Plan also lists several possible techniques for achieving energy conservation goals.

63. "Transportation Goals and Policies" and "Energy Goals and Policies," adopted by the Lincoln City Council by Resolution A-62436 on January 26, 1976, and the Lancaster County Board of Commissioners by motion on January 24, 1976. The Goals and Guidelines are attached as an Appendix to this chapter since they contain many ideas that may be useful to other communities adding energy conservation considerations to their plans.

64. Ore. Rev. Code §§197.040(2), 197.175(2)(a); Oregon Land Conservation and Development Commission, "State-Wide Planning Goals and Guidelines," January 1, 1975, Goal Number 13, pp. 36-37 (hereinafter cited as "Oregon State-Wide Goals and Guidelines"). Guidelines for implementation of several other state-wide goals specifically or indirectly require consideration of energy as a factor in the planning process. *See* Oregon State-Wide Goals and Guidelines, *Id.* Goal Number 2 (To establish a land use planning process and policy framework); Goal Number 3 (To preserve and maintain agricultural lands); Goal Number 5 (To conserve open space and protect natural resources); Goal Number 8 (To satisfy the recreational needs of the citizens of the state and visitors); Goal Number 9 (To diversify and improve the economy of the state); Goal Number 10 (To provide for the housing needs of citizens of the state); Goal Number 11 (To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development); Goal Number 12 (To provide and encourage a safe, convenient, and economic transportation system); and Goal Number 14 (To provide for an orderly and efficient transition from rural to urban land use) which all recommend that energy consequences of actions to attain the goal be considered. Goal Number 7 (To protect life and property from natural disasters and hazards) indirectly promotes energy conservation by recommending creation of low-density and open-space uses in flood plains, thus providing a growth management tool which may be used to promote more compact, less sprawling developments elsewhere.

the least flexible one. The state enabling statute for local comprehensive planning may become a checklist, rather than a policy guide, if everything a comprehensive plan should consider, including energy conservation, is enumerated in the statute. Nevertheless, Florida[65] and California[66] have chosen this approach in their local comprehensive planning statutes (albeit for goals other than energy conservation) in order to ensure that localities will consider certain elements deemed fundamental to good comprehensive planning. There is no reason energy conservation cannot be added to the list of required elements.[67]

If energy conservation is made a required planning goal, the next issue is to what extent plans must promote energy-efficient land use. On the one hand, localities can be required always to promote maximum energy conservation through their comprehensive plans; or on the other hand, energy conservation can be designated a "consideration" to be weighed in developing a comprehensive plan. A requirement always to maximize energy conservation may backfire since many considerations other than energy consumption influence land use decisions and in some instances a conflicting goal may be more important. But simply designating energy conservation as a consideration in developing plans may result in localities' giving short shrift to the energy impacts of land use. One way states can enforce due consideration of energy impacts is to require localities, whenever they determine that energy conservation is an inappropriate goal for a particular situation, to note in a written statement the inapplicability of the goal and to state the reasons for that conclusion.[68] The statements can form a basis for reviewing plans to determine whether they conform to state planning requirements.

C. Strategy: Require local zoning and subdivision ordinances and other land use regulations to conform to the comprehensive plan.

Local comprehensive plans designed to promote energy conservation will be most effective if states require all zoning and subdivision ordinances, regulations, and land use control tools to be consistent with the policies outlined in the plan. At the present time, comprehensive plans are often disregarded when requests for zoning amendments or variances come before local planning commissions, and previously adopted ordinances are seldom changed to conform to comprehensive plans.

The slight weight given to comprehensive plans in many states stems, in large part, from the untimely development of comprehensive planning enabling legislation in this country. The Standard Zoning and Enabling Act of 1926 (SZEA), which forms the basis for zoning enabling laws in 47 states, empowers local governments to zone "in accordance with a comprehensive plan."[69] Forty-one states presently have zoning enabling laws which have repeated verbatim or modified slightly the "in accordance with a comprehensive plan" requirement.[70] Ever since SZEA was adopted, there has been confusion whether that enabling act required zoning to comply with an independently adopted comprehensive plan or whether "comprehensive plan" simply referred to a rational, integrated zoning process. Part of the confusion arises from the fact that it was not until two years after adoption of SZEA that the Department of Commerce promulgated the Standard Planning Enabling Act (SPEA) which authorized local master planning and subdivision control.[71] Because nothing indicates that the comprehensive plan referred to in SZEA is the same as the independently adopted master plan authorized by SPEA, most courts take the position that the SZEA phrase "in accordance with a comprehensive plan" does not require reference to an independent plan.[72] Nevertheless, some courts look to an independent comprehensive plan as a policy referent when examining land use regulations, even though they do not require that a separate plan exist before regulations are upheld.[73]

In 1955, Harvard Law Professor Charles M. Haar challenged the traditional interpretation of the comprehensive planning requirement in a widely cited article which highlights the land use problems growing out of planless zoning. Haar argued that states should require zoning ordinances to conform to the specific criteria of an independently adopted master plan.[74] Although Haar's position remains the minority view, several state legislatures and courts are giving more weight to the position that independently adopted comprehensive land use plans must provide a framework for local zoning and subdivision ordinances and other land use regulations.

The landmark case requiring reference to an independent comprehensive plan is *Fasano v. Board of County Commissioners*.[75] *Fasano*, decided in 1973 by the Oregon

65. Fla. Local Gov't Comprehensive Planning Act of 1975, Ch. 72-257 §7 (1975).

66. Cal. Gov't. Code §65302 (West Supp. 1975).

67. In fact, the Vermont Land Use and Development Law includes energy conservation as a criterion, but not in the context of comprehensive planning. Under Vermont law, all large and some small developments must show that "... planning and design of the subdivision or development reflect the principles of energy conservation and incorporate the best available technology for efficient use or recovery of energy." (Vt. Stat. Ann. T. 10 §6086(a)(9)(F) (Supp. 1975)).

68. Oregon includes such a requirement in its State-Wide Goals and Guidelines, *supra*, n.64 at p. 8.

69. SZEA, *supra*, n.36, §3.

70. Williams, *supra*, n.36, §18.05 at 359.

71. SPEA, *supra*, n.37.

72. A leading example of this interpretation is *Kozesnik v. Township of Montgomery*, 24 N.J. 232, 131 A.2d 1 (1957). *See also Citizen's Ass'n. of Georgetown, Inc. v. Zoning Comm'n.*, 477 F.2d 402 (D.C. Cir. 1973); *Bow & Arrow Manor, Inc. v. Town of West Orange*, 63 N.J. 335, 307 A.2d 563 (1973). *See generally* E. T. Sullivan and L. Kressel, "Twenty Years After—Renewed Significance of the Comprehensive Plan Requirement," 9 Urban L. Ann. 3 (1975).

73. *See Udell v. Haas*, 21 N.Y.2d 463, 288 N.Y.S.2d 888, 235 N.E.2d 897 (1968); *Baske v. City of Troy*, 381 Mich. 611, 166 N.W.2d 453 (1969). *See generally* Sullivan and Kressel, *supra*, n. 72.

74. Charles M. Haar, "In Accordance With a Comprehensive Plan," 68 Harv. L. Rev. 1154 (1955).

75. 264 Ore. 574, 507 P.2d 23 (1973).

Supreme Court, held that a county rezoning in Oregon must be consistent with an independently adopted county comprehensive plan.[76] Moreover, the court went on to distinguish between planning and zoning:

> The plan embodies policy determinations and guiding principles; the zoning ordinances provide the detailed means of giving effect to those principles.[77]

In a subsequent case, the Oregon Supreme Court further clarified the role of comprehensive plans when it ruled that Oregon city zoning ordinances adopted prior to the adoption of a comprehensive plan must be changed to comply with the plan.[78] Oregon is not the only state whose judiciary has recognized the importance of comprehensive planning. Courts in Maryland, New York, Colorado, and Kentucky have also given presumptive weight to independent comprehensive plans.[79]

Supplementing the court opinions, several states have enacted legislation requiring varying degrees of consistency between land use regulations and independent comprehensive plans. These statutes differ according to their definition of consistency, their requirements regarding the kinds of land use controls subject to the consistency provision, and their handling of regulations whose enactment predates the consistency requirement.[80]

California limits application of the consistency requirement to county and city zoning ordinances, but takes a broad view of the scope of the requirement by mandating that pre-existing ordinances conform to the comprehensive plan by a specified date.[81] "Consistency" in the California statute means that "[t]he various land uses authorized by the ordinance are compatible with the objectives, policies, general land uses, and programs specified in such a plan."[82]

In contrast to the California statute, the Florida Local Government Comprehensive Planning Act of 1975 requires all land development regulations and amendments to the regulations—not just zoning ordinances—to be consistent with the adopted comprehensive plan.[83] Those regulations include zoning, subdivision, building and construction, and other regulations controlling the development of land.[84] Yet unlike the California statute, the Florida statute can be read as limiting the consistency requirement to development regulations enacted or amended after adoption of the plan.[85] Florida does not define "consistent."

If localities are to channel growth into energy-efficient locations effectively, it seems essential that local governing bodies adopt a comprehensive plan designed to achieve that goal and, following adoption of the plan, make existing and future land use regulations conform to the plan. The most effective strategy would combine the California and Florida approaches by requiring all land development regulations, including those pre-dating the plan, to be made consistent with the adopted plan. Because it is important that energy-conserving plans be implemented, and because SZEA language does not guarantee that local land use regulations will conform to independent comprehensive plans incorporating energy conservation goals, this is one area in which revision of state enabling legislation may be desirable.

Individuals adversely affected by the changes made in existing land use regulations to achieve conformity with an adopted comprehensive plan may argue that the changes either constitute a taking of property without just compensation or unjustly discriminate against them. Upon implementation of the plan through land use regulations, alleged violations of property rights will certainly be ripe for litigation. Even though changes have been made in accordance with a comprehensive plan, thus providing a basis for arguing that the decisions are rational and fair,[86] changes in regulations may sometimes be improper. These situations and the factors that may lead to successful challenges of land use regulations are examined in the following chapters in the context of specific energy-conserving strategies.

D. *Strategy: Encourage or require state activities to conform to adopted local comprehensive plans.*

Localities that adopt comprehensive plans often complain that their plans are disregarded by state agencies involved in building roads, approving transmission lines, and constructing state facilities. This disregard by governmental agencies for local plans has generally been

76. The enabling legislation in Oregon at that time gave counties the authority to zone if they had a comprehensive plan adopted by the planning commission.

77. 264 Ore. at 582, 507 P.2d at 27.

78. *Baker v. City of Milwaukie*, ___ Ore. ___, 533 P.2d 772 (1975).

79. *Norbeck Village Joint Venture v. Montgomery County Council*, 254 Md. 59, 254 A.2d 700 (1969); *Golden v. Planning Board of the Town of Ramapo*, *supra*, n.5; *Fontaine v. Board of County Comm'rs*, 493 P.2d 670 (Col. App. 1971); *City of Louisville v. Kavanaugh*, 495 S.W.2d 502 (Ky. App. 1973).

80. The California and Florida statutes are discussed in the text. The 1973 Oregon Land Use Act requires adoption of local comprehensive plans consistent with state-wide planning goals and guidelines and the enactment of land use ordinances or regulations to "implement" the plans. (Ore. Rev. Stat. §197.175(2)(b)). For other states requiring land use controls to conform to a comprehensive plan, see Alaska Stat. §§20.33.090, 29.33.080, 29.33.085 (Supp. 1974); Ky. Rev. Stat. §100.213 (1971) (note that Kentucky requires only map amendments, not zoning ordinances, to be in agreement with the comprehensive plan); and Neb. Rev. Stat. §23-114.03 (1974); *see* Mandelker, *supra*, n.4.

81. Cal. Gov't. Code §65860 (West Supp. 1975).

82. *Id.* §65860(a)(ii) (West Supp. 1975).

83. Fla. Local Government Comprehensive Planning Act of 1975, Ch. 75-257, §12(1) (1975).

84. *Id.* §12(2)(b) (1975).

85. *Id.* §12(1). The Florida statute states, "All land development regulations enacted or amended shall be consistent with the adopted comprehensive plan, or element or portion thereof." Although section 14 of the Act provides for adoption of regulations to implement the plan, this provision falls short of an express requirement that regulations predating the plan be amended to conform to the plan. This apparently limited scope has been broadened somewhat by another provision requiring development undertaken by governmental agencies to be consistent with the plan. Consequently, the government development action must conform to the plan even though a pre-existing zoning ordinance may not. Still, the statutory language appears to leave private actions subject to existing land regulations which may or may not conform to the plan. *See* Mandelker, *supra*, n.4.

86. *See* p. 2, *supra*.

sustained by the courts.[87] Yet state-financed development has a tremendous impact on where private development will occur. Public highways are noted for inducing development along their routes. Public utility transmission lines, which in many cases are regulated at a state level, can also determine where new growth will take place. One strategy for guiding development into energy-efficient locations is to encourage or require regional and state agencies to cooperate with local governments in developing an energy-efficient comprehensive plan. A comprehensive plan based on such cooperation will not only serve local needs but also be responsive to regional and state-wide concerns. It can reduce the possibility that a carefully prepared local comprehensive plan promoting energy-efficient land use will be ignored by supervening state or regional agency action.

The Virginia comprehensive planning law provides an example of a statutory mandate for cooperation between local governments and state agencies during the preparation of comprehensive plans. That statute requires state agencies responsible for construction, operation, or maintenance of a public facility located within the area to be covered by a comprehensive plan to cooperate with local planning commissions and to furnish reasonable information pertinent to the activities upon a request by localities.[88] Similarly, Idaho requires local governing boards and planning commissions to take into account the plans and needs of the state and its agencies in preparing a comprehensive plan.[89]

In addition to requiring cooperation, states can also encourage or require their agencies' actions to be compatible or comply with the approved local plans so they do not thwart local energy conservation goals. Florida, Idaho, and Virginia comprehensive planning statutes provide examples of the varying degrees to which state agency action may be required to conform to a local plan. Florida takes the strongest position regarding consistency by requiring all development affecting land covered by local comprehensive plans and undertaken by governmental agencies to be consistent with such plans,[90] but the State Department of Transportation has pre-filed a bill in the 1976 legislative session seeking an exemption from this requirement. In contrast to the Florida law, Idaho and Virginia statutes recognize that occasionally broader state interests will differ from, and should override, local considerations. Idaho solves the problem by requiring governmental development to be consistent with local government plans and regulations except in those instances explicitly excused by statute.[91] Virginia, on the other hand, requires streets, parks, public areas, buildings, and structures, public utility facilities, and public service corporation facilities, except railroad facilities, to conform *substantially* with adopted local plans.[92] A fourth approach for coordinating state agency action and local planning is the Oregon practice of making state agencies and special districts subject to the same state-wide goals and guidelines (including the goal of energy conservation) localities must follow in preparing comprehensive plans.[93]

III. Content of the Local Comprehensive Plan

The content of local comprehensive plans will vary tremendously according to physical characteristics and location of the community; population pressures; social, political, economic, and environmental make-up and goals; and countless other factors. Although this chapter cannot suggest specifically what provisions local comprehensive plans promoting energy-efficient land use should contain, it will be useful to outline briefly goals and guidelines that should be considered in developing plans.[94] The following checklist presents broad goals and guidelines which are designed to reduce energy consumption primarily in the transportation and heating and cooling sectors since land use has a major impact on energy demands in those areas. The remaining chapters discuss each goal in detail and analyze methods for implementing goals and guidelines once they have been incorporated in the local plans.

Goals to Reduce Transportation Energy Demand

A. Curbing Urban Sprawl

1. The comprehensive plan should curb urban sprawl by encouraging development close to the center city while discouraging leapfrog, haphazard development in the suburban and rural fringe.

a. Greenbelts and holding zones should be estab-

87. *See Board of Regents of the Universities and State College v. City of Tempe*, 88 Ariz. 299, 356 P.2d 399 (1960); *The City of Des Plaines v. The Metropolitan Sanitary District of Greater Chicago*, 59 Ill.2d 29, 319 N.E.2d 9 (1974).

88. Va. Stat. Ann. §15.1-457 (Supp. 1975). The Virginia statute states that although an adopted comprehensive plan shall control the location, character, and extent of streets, parks, public buildings, public utility facilities, and public service corporation facilities except railroad facilities, it shall not "... be deemed ... to abridge the authority of any ... State agency regarding the facilities now or hereafter coming under its jurisdiction." *Id.* §§15.1-456, 15.1-457.

89. Idaho Local Planning Act of 1975, Idaho Code §67-6528 (Supp. 1975).

90. Fla. Local Gov't Comprehensive Planning Act of 1975, Ch. 75-257, §12(1). The Florida act defines governmental agencies to include federal governmental agencies, but case law has determined that the federal government is not subject to local or state regulation in the exercise of its constitutional powers. *See United States v. Chester*, 144 F.2d 415 (3d Cir. 1944).

91. Idaho Local Planning Act of 1975, *supra*, n.89. This approach is also taken by the ALI Model Land Development Code which requires government development to comply with local government land use regulations except to the extent exempted by specific laws (ALI Model Land Development Code, *supra*, n.43, §12-201 and accompanying Comment).

92. Va. Stat. Ann. §§15.1-456, 15.1-457 (Supp. 1975). The Virginia Statute adds that even though state agencies must cooperate with local planning bodies, the act does not abridge authority of state agencies regarding facilities coming under their jurisdiction. (*Id.* §15.1-457). Whether this provison and a similar one in the Florida statute provide a loophole by which state agencies can circumvent local plans is a matter for judicial interpretation.

93. Ore. Rev. Stat. §§197.180, 197.185 (1973).

94. See the attached Appendix for excerpts from goals and guidelines adopted by Lincoln, Nebraska, and Lancaster County, Nebraska, for use in developing a regional comprehensive plan.

lished in areas where growth is unwanted.

b. Publicly-built community facilities, such as civic centers, auditoriums, and community colleges, should not be built in areas unripe for development.

c. Streets and roads should be extended only to areas where growth is desirable.

d. Land should not be annexed unless growth is desired in the annexed area.

e. Inner cities should be revitalized so that new residents will be attracted while present residents are encouraged to stay.

2. The comprehensive plan should curb urban sprawl by discouraging development on unnecessarily large residential and commercial lots and by increasing multi-family housing in areas where such housing is desirable.

B. Integrating Transportation and Land Use Plans

1. The comprehensive land use plan should be coordinated with transportation plans so that high-density development is encouraged in areas close to public transportation lines.

2. The comprehensive plan should encourage patterns of development at densities high enough to support public transportation systems.

3. The comprehensive plan should provide for major community facilities, multi-family housing, and commercial centers to be built on transportation lines.

4. The comprehensive plan should promote building of public facilities and shelters along public transportation routes to promote convenient and comfortable use of public transportation.

5. The comprehensive plan should encourage provision of bikeways, pedestrian paths, skyways, and sidewalks to areas of major activities.

6. The comprehensive plan should provide for peripheral parking facilities and provide public transportation from the facilities to the center city.

C. Clustering Activities and Mixing Land Use to Reduce Transportation Demands

1. The comprehensive plan should encourage growth near activity centers, transportation lines, and job locations.

2. The comprehensive plan should provide for mixing of compatible residential, commercial, and industrial uses so that trip length will be reduced.

3. The comprehensive plan should encourage clustering of shopping, cultural, medical, educational, and other public facilities in easily accessible areas so that one trip can serve several purposes and so that the possibility of public transportation will be enhanced.

4. The comprehensive plan should provide limited access to major roads and streets so that development is encouraged to cluster rather than to spread out in strip developments along transportation routes.

5. The comprehensive plan should promote use of buildings for multiple purposes (i.e., commercial uses on the ground floor with residential uses above).

6. The comprehensive plan should allow industries compatible with residential development to locate close to areas where appropriate housing for employees is available.

7. The comprehensive plan should locate many small parks close to residential areas so that residents can eliminate long trips to recreational facilities.

Reducing Heating and Cooling Energy Demands

A. Design Changes to Reduce Energy Demands

1. The comprehensive plan should permit increased development of multi-family housing and multi-story commercial buildings which suffer less loss of heated and cooled air through exposed surfaces than detached single-family homes and single-story commercial units.

2. The comprehensive plan should promote energy-efficient landscaping.

3. The comprehensive plan should encourage building orientation that will admit or exclude maximum sunlight according to the demands of the region.

B. Clustering to Permit Use of Efficient Heating and Cooling Systems

1. The comprehensive plan should provide for clustering of buildings so that centralized heating and cooling facilities can be used.

2. The comprehensive plan should provide for industrial parks where compatible industries can locate so that one industry can use the waste heat generated by another.

Appendix

Following are excerpts from Energy Conservation and Transportation Goals and Policies which were adopted in January 1976 by the Lincoln, Nebraska, City Council and the Lancaster County, Nebraska, Board of Commissioners for use in the development of a comprehensive plan. Growing out of an energy conservation workshop held in September 1975, and recommendations of both a citizen-based Goals and Policies Committee and the local planning commission, the two resolutions contain some of the most comprehensive land use/energy conservation guidelines the ECP staff has seen since beginning research on energy conservation and land use a year ago. The Goals and Policies are specifically applicable to the Lincoln-Lancaster County area, but are included here because many ideas contained in the Resolutions may be suggestive for other localities interested in promoting energy-efficient land development. Some guidelines contained in the Resolutions are discussed more fully in later chapters of this handbook.

ENERGY GOALS AND POLICIES ADOPTED BY THE LINCOLN CITY COUNCIL BY RESOLUTION A-62436 ON JANUARY 26, 1976, AND BY THE LANCASTER COUNTY BOARD OF COMMISSIONERS BY MOTION ON JANUARY 27, 1976, AFTER A JOINT PUBLIC HEARING ON JANUARY 26, 1976, IN THE CITY COUNCIL CHAMBERS, COUNTY-CITY BUILDING.

PREFACE: All energy goals and policies should be weighed carefully against the goals and strategies developed to prevent a negative employment or economic effect as well as any adverse effects upon the community as a whole.

ENERGY

IMPLEMENT THE CONCEPT OF STEWARDSHIP AND CONSERVATION REGARDING THE UTILIZATION OF EXHAUSTIBLE ENERGY RESOURCES, INCLUDING THE IMPROVED EFFICIENCY OF THE DEVELOPMENT OF LAND AND SUPPORTING SYSTEMS, AND PREPARE FOR THE CONVERSION TO NEW ENERGY SOURCES AS TECHNOLOGY AND FINANCIAL FEASIBILITY PERMIT.

ENERGY SUB-GOAL 1: LAND USE

Regulate the use of land and encourage the use of urban design so as to minimize the demand for energy consumption and maximize the effectiveness of energy consumed.

POLICIES

1. Regulate the use of land so as to provide higher density residential facilities in proximity to the Lincoln Center and other major activity centers.

2. Encourage the development of fewer and more intense multi-purpose centers and their concentration as opposed to the scattering of such activities in order to provide opportunity to eliminate or substantially reduce auto travel.

3. Encourage people to live in proximity to activity centers and particularly their place of employment.

4. Emphasize the revitalization of the Lincoln Center and the rehabilitation or redevelopment of established neighborhoods near the Lincoln Center.

5. Encourage radial or concentric growth about the Lincoln Center with new development to north, west, and south. When the objectives establishing growth areas to the north, west, and south have been substantially developed, growth to the east into Stevens Creek watershed area may be pursued.

6. Encourage land use arrangements and densities that facilitate energy efficient public transit systems.

7. Encourage existing and future industries to conserve energy and improve energy efficiency.

8. Encourage site planning and designs which reduce demand for artificial heating, cooling, ventilation, and lighting.

9. Encourage the investigation of energy conservation and improved energy efficiency possibilities of centralized heating and cooling facilities serving building complexes.

ENERGY SUB-GOAL 2: TRANSPORTATION

Plan, design, and manage a coordinated system of public and private transporation programs and facilities which maximize passenger and freight miles traveled per unit of energy consumed.

POLICIES

1. Provide the facilities and programs for increased utilization of public transit, carpooling, and bicycle and pedestrian systems.

2. Reduce the need for and utilization of the private automobile.

3. Continue to improve the effectiveness of existing and future roadways so as to minimize unnecessary energy consumption by improving circulation through engineering procedures and roadway improvements.

* * *

ENERGY SUB-GOAL 3: COMMUNITY FACILITIES

Exhibit governmental leadership and innovation related to the conservation and efficient utilization of energy for community facilities and services.

POLICIES

1. The location, design, and operation of community facilities such as schools, churches, libraries, recreational facilities, university facilities, and other public buildings should encourage energy conservation and efficient energy utilization by such means as multi-purpose or joint uses.

* * *

3. All public lighting systems should be designed and operated to efficiently utilize energy without sacrificing public safety.

* * *

ENERGY SUB-GOAL 4: BUILDING DESIGN

Encourage the design and construction of buildings and building complexes so as to effectively utilize all energy sources.

POLICIES

1. Building design and orientation should strive to effectively utilize natural lighting and reduce the effects of exposure to extreme weather conditions, thereby reducing the need for mechanical heating, cooling, and ventilation.

* * *

4. Landscape materials should be utilized effectively to reduce the adverse effects of weather conditions.

* * *

6. Buildings should be designed and built to utilize waste heat to reduce the demand on public utilities.

TRANSPORTATION GOALS AND POLICIES ADOPTED BY THE LINCOLN CITY COUNCIL BY RESOLUTION A-62436 ON JANUARY 26, 1976, AND BY THE LANCASTER COUNTY BOARD OF COMMISSIONERS BY MOTION ON JANUARY 27, 1976, AFTER A JOINT PUBLIC HEARING ON JANUARY 26, 1976, IN THE CITY COUNCIL CHAMBERS, COUNTY-CITY BUILDING.

PREFACE: All transportation goals and policies should be weighed carefully against the goals and strategies developed to prevent a negative employment or economic effect as well as any adverse effects upon the community as a whole.

TRANSPORTATION

PLAN, DEVELOP, AND MAINTAIN A COMPREHENSIVE, BALANCED, INTEGRATED, SAFE, AND EFFICIENT TRANSPORTATION SYSTEM, INCLUDING BOTH FACILITIES AND PROGRAMS, TO ENSURE MOBILITY FOR ALL SEGMENTS OF THE POPULATION, TO ENSURE THE SOCIAL, ECONOMIC, AND ENVIRONMENTAL WELL BEING OF THE RESIDENTS OF THE AREA, AND TO BEST EFFECTUATE THE DESIRED DEVELOPMENT PATTERN.

TRANSPORTATION SUB-GOAL 1

Provide and maintain a system of roads, streets, and high-

ways relating to both present and anticipated land uses, that will allow the continued adequate multi-modal movement of people and goods, while incurring the least social, economic, and environmental harm to residential neighborhoods, activities, and land uses.

POLICIES

1. Provide assistance, through public resources, for the extension of major streets and roads only to those areas where growth is desired, as shown in the Comprehensive Plan, and refuse assistance for possible development where growth is not desired without inhibiting necessary rural functions.

2. Assistance through public resources should not be provided in such a manner as to encourage the leap-frogging of large vacant areas in order to reach proposed areas of development.

* * *

TRANSPORTATION SUB-GOAL 2

Encourage arrangements of land uses that facilitate the expanded use of non-auto modes of travel, the increased occupancy of autos, or the use of energy-efficient forms of transport as an integral part of a transportation system which provides for the adequate movement of people and goods while maintaining the quality of the living and working environment.

POLICIES

1. Encourage the concentration of major employment and activity centers, particularly in relation and proximity with higher density residential areas, in order to facilitate shorter travel distances, the use of non-auto modes of travel, and/or the increased occupancy of autos. Encourage people to live in proximity to such activity centers, particularly their place of employment.

2. Public investment should be directed toward encouraging projects that will effectuate the development of land use arrangements that contribute toward the multi-modal movement of people and goods, minimize auto trips, or promote the use of transit.

3. Compatible business and residential uses should be arranged and designated in multi-purpose regional centers so as to encourage walking, biking, or transit usage and to eliminate or reduce the need for vehicular travel between destinations.

4. De-emphasize vehicular movement on primary pedestrian streets in the Lincoln Center while improving amenities, safety, and environment for the pedestrian to the extent that consideration is given to the prohibition of auto travel on these and such other streets as necessary to constitute an auto-free pedestrian zone.

5. Encourage the development of long-term parking, served by public transit, in the perimeter of the Lincoln Center and discourage long-term parking within the core of the Lincoln Center.

6. Encourage development of parking near the perimeter of the urban area to serve the Lincoln Center with express buses.

* * *

TRANSPORTATION SUB-GOAL 5

A system of bikeways and walkways should be developed which would provide convenient and safe movement of non-motorized traffic.

POLICIES

1. Develop an overall system of trails and bikeways which would include bicycle lanes on specially marked streets as well as bicycle and hiking trails in linear parks.

2. Provide convenient and safe bicycle routes connecting the Lincoln Center and other major activity areas, particularly the University of Nebraska campus, with adequate provision for parking.

* * *

4. Provide a system of sidewalks to enable safe, direct, and convenient pedestrian access to all areas of the community.

5. Encourage an integrated system of skywalks in the Lincoln Center to reduce pedestrian-auto conflicts and to provide a convenient alternate level of pedestrian movement.

Readers of *ECP Report* are encouraged to comment on this draft. The following list of questions is suggestive of the kinds of comments we hope to elicit.

1. Are there any factual errors in the chapter?

2. What problems (legal, economic, social, political, environmental, or others) do you foresee with any of the specific strategies which are discussed?

3. Have you had any personal experience with any of the suggested strategies? What are the strengths and weaknesses of the strategies in practice?

4. What changes could be made to improve any of the strategies? What points are in need of further development?

5. Are there any strategies or information which have been omitted? Where can we find more information about the strategy?

6. Do you see any contradictions within the chapter or trade-offs which should be made more explicit?

7. Do you have any comments concerning the approach, emphasis, or other matters which would improve the chapter?

Please address your comments to: Corbin Crews Harwood, Environmental Law Institute, Energy Conservation Project, 1346 Connecticut Avenue, N.W., Suite 620, Washington, D.C. 20036.

The writing of this draft chapter was financed under a grant from the National Science Foundation. The contents of the chapter do not necessarily reflect the views or policies of the National Science Foundation or the United States Government.

FEA Issues Guidelines for State Feasibility Reports

On February 20, 1976, the Federal Energy Administration issued final guidelines for the preparation of state energy conservation feasibility reports pursuant to §362(a) of the Energy Policy and Conservation Act (*ECP Report*, Number 4, January 1976). Because of the importance of these regulations to our state government readers, we are publishing the full text of the regulations as they appeared in the February 26, 1976, issue of the *Federal Register*.

State Energy Conservation Feasibility Report Guidelines

10 C.F.R. Pt. 420, 41 Fed. Reg. 8335 (Feb. 26, 1976)

On January 27, 1976, the Federal Energy Administration (FEA) issued a notice of proposed rulemaking (41 FR 4298, January 29, 1976) to establish Part 420, Chapter II of Title 10, Code of Federal Regulations, to implement a program for State energy conservation plans. This proposal was issued pursuant to Part C of Title III (42 U.S.C. 6321-6326) of the Energy Policy and Conservation Act (Act), Pub. L. 94-163. As a first step in such implementation, FEA proposed guidelines for the preparation of State energy conservation feasibility reports, pursuant to section 362(a) of the Act (42 U.S.C. 6322(a)).

Comments on the proposed regulations were invited from interested persons by February 11, 1976, and a public hearing was scheduled for the same date. In response to the notice, 15 comments were received by FEA. The public hearing was cancelled due to the lack of sufficient public interest in presenting oral views. The final regulations promulgated here contain revisions to the proposed regulations which reflect FEA's consideration of the comments as well as other information available to FEA.

Some of the comments requested further guidance on recordkeeping than was provided in proposed §420.2. Accordingly, §420.2 has been amended to provide expressly that recordkeeping shall be in accordance with Federal uniform administrative requirements for grants-in-aid to State governments, as set forth in Federal Management Circular 74-7 (34 CFR Part 256), and any further requirements which FEA might in the future establish to assist the States in applying Federal Management Circular 74-7 to the program for State energy conservation plans.

Proposed §420.22(b)(2) provided that a request for an extension of time for the submission of a State energy conservation feasibility report should be made within 80 days after the effective date of the regulation. One comment received by FEA pointed out that there may be difficulties experienced by the States in meeting this deadline and suggested that the period of time be extended to 120 days. FEA believes that 120 days is excessive and that 3 months, coinciding with the statutory date for submission of the report itself, is sufficient time to allow a State to determine if an extension is needed. Accordingly, the final version of §420.22(b)(2) provides for a 3 month period within which a request for an extension shall be made.

The proposed regulations made reference in §420.24 to the allocation of up to $5 million, subject to the appropriation of funds, in order to assist the States in the development of State energy conservation plans. Reference to this amount has been deleted in the final regulations since budgetary considerations on funding levels and program design await final decision in the context of the submission to the President's budget and action thereon by the Congress. Conforming amendments have been made by deleting proposed §§420.23(b)(1) and (2) and 420.24(b) to comport with the fact that Federal budget decisions are not yet final.

Proposed §420.24 also provided that the financial assistance to the States for the development of State energy conservation plans be allocated on the basis of fifty percent divided among the States equally and fifty percent divided on the basis of the State population as specified in the 1970 U.S. Census. A comment received by FEA suggested that the most recent census estimate be utilized. FEA has adopted this suggestion and the final version of §420.24(b) provides for the utilization of the census as of July 1, 1973, the most recent census estimate available for all jurisdictions.

In consideration of the foregoing, Chapter II, Title 10 of the Code of Federal Regulations is amended by establishing Part 420 as set forth below, effective immediately.

Issued in Washington, D.C., February 20, 1976.

David G. Wilson,
Acting General Counsel,
Federal Energy Administration.

Chapter II is amended by establishing Part 420 to read as follows:

Subpart A—General Provisions

Sec.
420.1 Purpose and scope.
420.2 Recordkeeping.

Subpart B—Definitions

420.11 Definitions.

Subpart C—State Energy Conservation Feasibility Report Guidelines

420.21 Purpose and scope.
420.22 Submission of State energy conservation feasibility reports.
420.23 Contents of State energy conservation feasibility reports.
420.24 Financial assistance.
420.25 Technical assistance.

AUTHORITY: Energy Policy and Conservation Act, Pub. L. 94-163; Federal Energy Administration Act of 1974, Pub. L. 93-275; E.O. 11790, 39 FR 23185.

Subpart A—General Provisions

§420.1 Purpose and scope.

This part establishes the procedures and guidelines of FEA for the implementation of Part C of Title III (42 U.S.C. 6321-6326) of the Energy Policy and Conservation Act (Pub. L. 94-163), which establishes a program for State energy conservation plans.

§420.2 Recordkeeping.

Each recipient of Federal financial assistance under this part shall keep such records as FEA shall require, including records which fully disclose the amount and disposition by each recipient of the proceeds of such assistance, the total cost of the project or program for which such assistance was given or used, the source and amount of funds for such projects or programs not supplied by FEA, and such other records as FEA determines necessary to facilitate an effective audit and performance evaluation. Such recordkeeping shall be in accordance with Federal Management Circular 74-7 (34 CFR Part 256) and any further requirements which may be established by FEA.

Subpart B—Definitions

§420.11 Definitions.

For purposes of this part—

"Act" means the Energy Policy and Conservation Act (Pub. L. 94-163).

"FEA" means the Federal Energy Administration, acting through either its Administrator or the delegate of its Administrator.

"State" means each of the 50 States, the District of Columbia, Puerto Rico, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific.

Subpart C—State Energy Conservation Feasibility Report Guidelines

§420.21 Purpose and scope.

This subpart prescribes guidelines applicable to the preparation of State energy conservation feasibility reports. It also provides for technical and financial assistance to the States in the development of State energy conservation plans.

§420.22 Submission of State energy conservation feasibility reports.

(a) FEA shall invite the Governor of each State to submit a State energy conservation feasibility report to the appropriate FEA Regional Administrator.

(b)(1) In order for a State to be eligible to receive financial assistance pursuant to this subpart for the development of a State energy conservation plan, its Governor shall submit a State energy conservation feasibility report to the appropriate FEA Regional Administrator within three months after the effective date of this subpart, unless an extension of time is granted by FEA pursuant to paragraph (b)(2) of this section.

(2) An extension of time for submission of a State energy conservation feasibility report may be granted if FEA determines that participation by the State submitting such report is likely to result in significant progress toward achieving the purposes of the Act. A request for an extension pursuant to this subparagraph shall be made to the appropriate FEA Regional Administrator within three months after the effective date of this subpart.

§420.23 Contents of State energy conservation feasibility reports.

A State energy conservation feasibility report, to be submitted in accordance with forms and instructions provided by FEA, shall include—

(a) An assessment of the feasibility of establishing a State energy conservation goal, which goal shall consist of a reduction, as a result of the implementation of a State energy conservation plan, of 5 percent or more in the total amount of energy consumed in the State in the year 1980 from the projected energy consumption for the State in the year 1980.

(b) A proposal for the development of a State energy conservation plan to achieve the State energy conservation goal.

§420.24 Financial assistance.

Subject to the appropriation of funds authorized by section 365(d) of the Act (42 U.S.C. 6325(d)), grant funds may be made available to assist the States in the development of State energy conservation plans in accordance with the following formula—

(a) Fifty percent of such funds shall be divided among the States equally, and

(b) Fifty percent shall be divided on the basis of the resident population of the States as of July 1, 1973, as reported by the U.S. Department of Commerce, Bureau of the Census, in "Current Population Reports," Series P-25, numbers 520 and 603.

§420.25 Technical assistance.

At the request of the Governor of any State, and subject to the availability of personnel and funds, FEA shall provide information and technical assistance in the preparation of State energy conservation feasibility reports.

Government Procurement of Recycled Goods: A Review of Problems and Prospects

We are surrounded by a host of memorials to the use of depletable energy. Virtually every item produced in this country embodies a variety of energy inputs. This is true even though the item, once produced, does not require energy to function. Energy investment in a given item includes energy consumed (1) in extracting or harvesting component raw materials, (2) in refining those materials, (3) in fabricating the finished item, and (4) in transporting the components and the finished item along the route which ultimately leads to the user.[1]

A state or local government seeking to reduce these energy investments could focus either on the multiple steps where energy is invested in a given item, or on the item itself. In the former case, the government might try to curtail energy use in various industries, such as mining, lumbering, refinement, manufacturing, and transportation, by regulation or taxation. Regulation, however, might encounter federal preemption obstacles since many industrial activities are federally regulated.[2] Furthermore, both regulation and taxation, when wielded by a single state or local government, may have the undesirable effect of causing industries to relocate in other jurisdictions which have lower taxes and less regulation.

Choosing to focus on the item itself, a government could modify its procurement policy to favor the purchase of items which embody less energy cost, other things being equal. Such a policy would avoid the problems of federal preemption,[3] and, except for local preferences, would have a minimal effect on industrial siting decisions.[4]

Before a government purchasing agency can modify its procurement policy, it must determine which items embody lower energy costs. While it is possible to trace the production of particular items submitted by competing bidders and add up all the energy inputs, it would be difficult to verify precisely such calculations. This lack of precision in bid evaluation could cast doubt upon the integrity of the entire procurement process. Furthermore, an attempt to determine the level of energy investment in a given item would involve significant administrative costs—probably higher costs than a small government could bear or a low dollar volume procurement would justify. One way to overcome these problems is to evaluate items according to generalized characteristics from which the amount of their energy investment can be extrapolated with reasonable certainty. One product characteristic which indicates the extent of energy invested in a product is its composition (i. e., whether the product is fabricated from virgin (primary) or recycled (secondary) materials).

The use of recycled, as opposed to virgin, materials in fabricating products provides a virtual guarantee of energy conservation. The potential savings is approximately the difference between the energy invested to extract, harvest, and refine component primary raw materials and the energy invested to recover the secondary materials. One recent study done for the Ford Foundation's Energy Policy Project concluded that recovery of ferrous metals, aluminum, and copper from urban scrap would result in energy savings of 86%, 96%, and 91%, respectively.[5]

The substantial energy conservation potential of recycling and its potential for conserving natural resources and reducing solid waste make the acquisition of products fabricated from recycled materials a very attractive purchasing strategy. To implement the strategy, a government could develop product specifications which require certain products to be fabricated of recycled materials to the maximum extent practicable.

Four questions face governments which are considering such a strategy:

- Do existing purchasing specifications preclude the use of recycled materials?
- Are the costs involved sufficiently low to make this strategy practical?
- Does limiting government purchases of a particular product to items containing recycled materials so limit the number of bidders as to interfere with competition?
- What is the maximum practical level of recycled material content for each type of product?

Although each government must answer these questions for itself, the following discussion will highlight some of the factors governments should consider in arriving at their answers.

Existing Specifications

Guidelines for procurement by the federal government of products that contain recycled material, issued recently by the U. S. Environmental Protection Agency (EPA), state that, in general, purchasing specifications do ". . . constitute a barrier to increased resource recov-

1. *See* Michael Gerrard, *Disclosure of Hidden Energy Demands: A New Challenge for NEPA*, 4 Envir. Affairs 611 (1975).

2. *See The Preemption Doctrine: Shifting Perspectives on Federalism*, 75 Colo. L. Rev. 623 (1975) and Engdahl, *Preemptive Capability of Federal Power*, 45 Colo. L. Rev. 57 (1973).

3. Note the express exemptions of state procurement standards from federal preemption in §§301 and 327(c) of the Energy Policy and Conservation Act, P.L. 94-163 (December 22, 1975).

4. Local preferences are arguably unconstitutional as barriers to interstate commerce. *See* Council of State Governments, *State and Local Government Purchasing* (Lexington, Ky.: Council of State Governments, 1975) at p. 9.4.

5. William E. Franklin, David Bendersky, William R. Park and Robert G. Hunt, "Potential Energy Conservation from Recycling Metals in Urban Solid Waste," in *The Energy Conservation Papers*, ed. Robert H. Williams (Cambridge, Mass.: Ballinger, 1975) at p. 172.

ery because recycled materials are often excluded."[6] Although made in reference to federal specifications, this statement probably applies to many state and local specifications, for federal practices often serve as models for other jurisdictions.

Specifications which prohibit the use of recycled materials reflect our society's preference for new, as opposed to used, materials. The justification for incorporating this preference into purchasing specifications is conceivably to protect governments against receiving sub-standard products. In many cases these specifications are unnecessarily stringent. Thus, in the context of present-day shortages governments should re-examine existing specifications and balance the need for protection against the need for conservation of energy and other resources. Specifications should be examined for any express prohibitions on the use of recycled materials and also for performance requirements which are so stringent as to limit unnecessarily the recycled material content.[7] In addition to revising specifications to eliminate these types of barriers, specifications should be amended to require the inclusion of the maximum practical amount of recycled material.

Costs

The administrative costs of purchasing recycled goods include not only the costs of re-examining and revising specifications, but also the costs of determining the maximum practicable level of recycled material content. These costs will arise early in the implementation process, but once they are incurred, few administrative costs attributable to this strategy will remain.[8] The magnitude of these costs will vary from government to government, and if a government discovers these costs are too great to incur all at once, it may implement the strategy in stages. For example, a certain number of specifications could be revised each year, starting with the ones for the most energy-intensive products, until all were revised.

With regard to costs of recycled, as opposed to virgin, materials, it should be expected that recycled materials will often cost *more*, which means that a government implementing this strategy will have to pay a higher purchase price for its acquisitions. Temporarily paying these higher prices is necessary, however, to reverse the prevailing practice of throwing away materials which might have been recycled. This practice arose as a result of the abundance of energy and other raw materials in the recent past, and government policies have reflected, and often reinforced, this practice.[9] Now, even though natural resources are dwindling, market forces and institutional supports still reinforce the use of virgin materials. As more and more natural resources (including energy) are depleted, this situation will gradually reverse itself. In the meantime, however, vast quantities of irretrievable resources may be lost. A government's role in this problem is analogous to fighting a fire. The fire will eventually cease to burn whether or not it is fought, but fighting the fire determines how much is consumed by the flames. In like manner, this government purchasing strategy can help preserve natural resources until such time as the market places greater value on recyclable materials. Government efforts may determine whether there is anything left to recycle when this time arrives.

Generally, governments seeking to purchase products incorporating recycled materials will have to pay a premium, but in some situations products containing recycled materials will actually cost less in the long run than those containing primarily virgin materials. As discussed above, specification review should include a search for product performance requirements which are so stringent that they unnecessarily limit the recycled material content of products. When such stringent requirements are discovered and relaxed, the government may realize cost savings from the introduction of recycled materials into production. For example, the energy cost savings of using recycled materials may be so substantial that manufacturers will be compensated very rapidly for costs of altering production practices. Having recovered these costs, manufacturers could pass through the energy costs savings to suppliers, and hence to the government, in the form of lower purchase prices.

Interference with Competition

The impact on competition of limiting purchases to products containing recycled materials must be considered on a product-by-product basis. Obviously, competition is of utmost importance to the purchasing process, and specifications often critically affect competition.[10] Each purchasing agency must ask whether potential suppliers of a particular product will be deterred from submitting bids because they are required to fabricate the product in part from recycled materials. The answer to this question will depend upon a number of variables. Major factors include the availability of recycled materials to potential suppliers, the ease (or difficulty) with which the use of these materials can be incorporated into existing production routines, and the volume of government purchasing for particular products. This last factor—volume—may be

6. 41 Fed. Reg. 2356 (January 15, 1976). *See also Guidelines Issued Pursuant to the Solid Waste Disposal Act*, 6 ELR 10044 (1976) and Environmental Law Institute, *Federal Environmental Law*, ed. Erica L. Dolgin and Thomas P. Guilbert (St. Paul, Minn.: West, 1974) at p. 1304.

7. 41 Fed. Reg. 2357-58 (January 15, 1976).

8. Costs which will recur include those of periodically reviewing the specifications once they are initially revised. This cost is not viewed as particularly burdensome, since some forms of specification review should be periodically undertaken in any case.

9. *See Federal Tax Policy Has Only Modest Impact on Recycling, Environmental Law Institute Study Concludes*, 6 ELR 10041 (1976). This article sets out a variety of government policies which appear to favor the use of virgin raw materials over recycled materials and which thereby increase the cost of recycled materials relative to virgin materials. These policies include freight rates, source labeling requirements, former federal procurement policies, federal mineral discovery policy, and municipal waste removal subsidies.

10. For discussions of impediments to competition and of the intricacies of specification writing, *see* The Council of State Governments, *State and Local Government Purchasing* (Lexington, Ky.: The Council of State Governments, 1975) at pp. 7.1-7.10 and 11.1 and 11.42.

the determinant of whether small jurisdictions adopt this strategy since producers cannot be expected to alter their production processes significantly without an expectation of large sales.

If it is determined that the purchasing volume of a single government for a particular item is too low to generate strong bidder response to revised specifications, then it may be desirable for several jurisdictions to enter into a cooperative purchasing arrangement. The Council of State Governments points out that one reason for such arrangements is ". . . to try to create a demand large enough to encourage the manufacture of new or modified products which are not otherwise commercially available."[11] Thus, cooperative purchasing is a valuable collateral strategy which could greatly facilitate the implementation by small governments of any purchasing strategy which requires market leverage.

Maximam Practicable Level of Recycled Material Content

In order to purchase recycled material, a government must determine the amount of recycled material that specifications for a given product should require. Obviously, the need for this determination arises only after a government has decided that suppliers will respond to revised specifications. The EPA guidelines suggest the following considerations for determining the maximum practicable level of recycled material content:

- product performance characteristics,
- recycled material supplies, and
- material and product costs.[12]

These three factors, particularly the second one, will often determine, without any other consideration, the maximum level of recycled material content. An additional, highly important factor, especially for small governments, will be the relative absence of vigorous competition for state and local, as compared to federal, government purchasing.[13]

In conclusion, while some state and local governments may initially decide that the benefits of this strategy do not outweigh its costs, means of cutting the costs are available for governments that implement this technique. Some smaller governments may join cooperative purchasing arrangements to break down barriers to implementation. In addition, limiting application of the strategy to a selected group of energy-intensive products may reduce costs to a level which can be borne by smaller jurisdictions. Because the potential of recycling for conserving energy and other natural resources and for reducing solid waste is great, governments which implement this strategy will make a significant contribution toward solving multiple societal problems. Not only will they achieve direct energy savings by reducing the energy investment in the products they purchase, but they will also stimulate the demand for resource recovery and will set an example for the private sector.

11. Ibid. p. 14.1. Note also that the National Institute of Governmental Purchasing, 1001 Connecticut Avenue, N.W., Washington, D.C. 20036, is actively engaged in assisting local governments to participate in cooperative purchasing arrangements.

12. 41 Fed. Reg. 2356 (January 15, 1976).

13. Again, this lack of vigorous competition is due to the relatively low volume of purchasing for a single state or local government as compared with the federal government. (Exceptions should be noted in the case of large states, such as New York and California, and large cities.)

Lowering Transit Crime May Save Energy

Shifting travelers from less energy-efficient automobiles to more energy-efficient transit vehicles is an essential energy conservation measure. During peak travel periods the average auto carries 1.4 persons and consumes 16 times more fuel per passenger mile than an urban bus carrying an average of 75 passengers. Unfortunately, however, today's travelers are using transit for less than 3 percent of their urban trips. Travelers reject transit because its costs—in terms of time, money, and quality of service—are higher than those for the auto.

One element of the higher cost of using transit is the increased exposure to crime which occurs when a traveler shifts from his private car to mass transit. The increased exposure is the result of the additional time transit travelers spend getting to and waiting at transit stops, as well as the additional time spent riding, and the lack of privacy while on transit. Furthermore, transit travelers have no control over their route, which may go through high crime areas. In contrast, traveling by auto not only eliminates the time getting to and waiting at transit stops, but it also provides a secure compartment which can be locked. Traveling companions can be chosen to limit exposure to crime. In addition, auto travel provides the opportunity to select the safest and shortest route. Between the two extremes of high exposure to crime presented by public transit and low exposure to crime offered by private autos lies para-transit, such as taxis, carpools, and jitneys (small buses that carry passengers over a regular route according to a flexible schedule). These ride-sharing transportation modes retain some flexibility for the selection of companions and routes and provide the security of locking compartments.

Description of Transit Crime. It is estimated that between 33,000 and 39,000 criminal incidents, excluding vandalism, occurred on public transit in 1971. Generally, the problem of transit crime appears more serious for rail than for bus transit, partly because rail transit does not have a driver in each vehicle to discourage crime. For example, a study of Chicago's transit system[1] indicated that

1. "Crime and Vandalism in Public Transportation," *Transportation Research Record* No. 487, pp. 1-12 (1974).

75 percent of all transit crime occurred on the rail system.

The Chicago study also found that robberies accounted for 75 percent of the rail transit crime and assault and battery the remaining 25 percent. The majority of the Chicago transit crime occurred in transit stations. Incidents occurring on rapid transit vehicles comprised less than 33 percent of the robberies, and less than 50 percent of the crimes against persons. By time of day, robberies were most frequent during off-peak periods, while assaults were most frequent during peak times. Although the Chicago study did not differentiate between crimes against passengers and drivers, another study suggests that most assaults occurring on bus systems are against drivers.[2] Most driver assaults arise from driver-passenger altercations, and their frequency appears to rise as the fare, zone, and transfer structure becomes more complex.

The Chicago study concluded that the risk of exposure to crime is considerably less for transit use than for the city of Chicago in general. This was based on the fact that the community of transit users experienced a robbery rate only one-third of that for the city as a whole. However, a subsequent investigation [3] noted that transit travelers are exposed to transit crime for shorter periods than they are exposed to general crime. Allowing for this different length of exposure, it appears that the risk of being involved in transit crime could be at least twice as great as the danger of being a victim of non-transit crime.

Yet, correcting for the different length of exposure is not enough. The relevant comparison for exposure to transit crime is *not* exposure to crime in general, but exposure to crime when making a comparable trip by auto or other non-transit mode. The choice facing a traveler is how to make a particular trip: by transit, auto, or other mode. When making this choice, the traveler will compare the costs, including crime exposure, of each mode. While exact figures are not available for comparing transit crime to auto crime, it is clear that the risk of auto crime is considerably less than the danger of transit crime.

In addition to failing to recognize that the most useful comparison of transit crime is with auto crime, existing studies of transit security often fail to distinguish between passengers and drivers as victims; attitudes of users and non-users of transit; and attitudes of captive and non-captive users. For example, it is not particularly useful to record a person's opinion that transit crime does not deter transit use, if the person providing the opinion is a captive transit user.

Effect of Crime on Ridership. While it is clear that transit crime has an adverse effect on transit ridership, the magnitude of the effect is not known. Studies in five cities of public attitudes toward transit crime produced the following findings:

- In Milwaukee transit crime was not related to bus ridership.
- In Washington, D.C., transit crime was a probable influence on bus ridership.
- In Baltimore a slight decrease in ridership followed a transit crime but was not necessarily caused by the crime.
- In Cleveland a decrease in ridership was positively attributed to a transit crime.
- In Chicago, transit crime was not a major influence on ridership, though concern for personal safety was a major influence with at least some rapid rail users.[4]

Because of the high priority our political system accords personal security, it may be enough for policy makers to know that transit crime exists and that it deters some people from using public transportation. However, for the public administrator who is concerned with the narrower issue of conserving energy in transportation, two key questions remain unanswered. First, energy planners must know how transit crime and various methods for controlling it are perceived by single occupant auto users, for it is by shifting these auto users to transit that the maximum energy will be saved. Second, transportation planners must be able to rank the strategy of reducing transit crime with other possible transit improvement strategies to determine which strategy will attract the most single occupant auto users. While a ranking does not yet exist, transit planners can eliminate a great deal of crime exposure merely by reducing total door-to-door travel time, a strategy which is also justified on non-crime grounds. For example, measures which reduce the time spent waiting at transit stops will decrease opportunities for crime. Measures could include more frequent service, better scheduling information, and more reliable service. Knowing when a bus or train will arrive allows travelers to minimize their exposure. Similarly, improved para-transit feeder service would reduce access time, thereby reducing crime exposure. Finally, express service would decrease the time spent riding on transit, with an accompanying reduction in crime exposure.

Specific Recommendations. In addition to reducing total door-to-door travel time, several discrete measures can be implemented to control transit crime. First, a more even distribution of passengers between peak and off-peak periods appears to have potential for reducing crime. As noted earlier, robberies occur most frequently during off-peak periods when few fellow travelers are present to deter the crime. An increase in off-peak transit use should act as a deterrent to robberies. On the other hand, assaults occur most often during peak congestion and indeed, may be contributed to by crowded conditions aboard transit vehicles, as would be the case with driver-passenger assaults. Accordingly, reducing congestion on buses

2. Metropolitan Washington Council of Governments, *Citizen Safety and Bus Transit*, p. 53 (1974).

3. American Transit Association, *Vandalism and Passenger Security. A Study of Crime and Vandalism on Urban Mass Transit Systems in the U.S. and Canada*, prepared for U.S. Dept. of Transp., Urban Mass Transp. Admin., pp. III-16 and III-17 (1973).

4. Summarized in "Crime and Vandalism in Public Transportation," *supra*, n. 1, at 27.

would alleviate the friction and confusion which provoke assaults. Measures for distributing passenger loads include peak-period pricing (i.e. higher fares for rush hour) and flexible work time. It must be noted, however, that peak-period pricing may contribute to the complexity of the fare system and may temporarily increase the possibility of driver-passenger disputes. Of course, a more even distribution of passengers can be further justified on the separate ground that it allows ridership growth without necessitating capital expenditures for new equipment.

Additional recommendations for combating crime include providing free transit to off-duty police, fire and military personnel; exact fares; paid guards on high crime routes, such as school runs; training transit and para-transit drivers in enforcement techniques; and giving drivers enforcement powers, including the power to arrest. Similarly, many hardware improvements are available, including physical barriers to protect drivers; turnstiles for fare enforcement; cameras to record all boarding passengers; and radio and alarm systems. Finally, the onerous effect of transit crime can be reduced by providing comprehensive insurance to compensate passengers for personal injuries and property loss suffered during assaults and robberies.

This article has focused on the relationship between crime and mass transit ridership, but the effect of crime on para-transit use, while not the subject of any reported studies, should not be overlooked. Expansion of para-transit also offers significant opportunities for energy conservation and will be examined in a future issue of *ECP Report*.

Energy Conservation Drafts Remain Available

As previously announced, staff members of the Energy Conservation Project have prepared draft discussion papers outlining energy conservation strategies in eight separate areas. These areas are (1) public utilities, (2) agriculture, (3) industrial processes, (4) land use, (5) government operations and procurement, (6) building technology, (7) urban transportation, and (8) taxation. These papers are based on ongoing research at the Energy Conservation Project and may be viewed as work in progress.

A *limited* number of copies of each paper are still available. If you would like to receive one, please address a letter, listing the topic in which you are interested, to: Drafts, Energy Conservation Project, Environmental Law Institute, 1346 Connecticut Avenue, N.W., Suite 620, Washington, D.C. 20036.

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